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PRESIDENT'S MESSAGE

As my tenure as President of NAMA comes to a close, I want to convey my great satisfaction with the outstanding progress this organization has recently enjoyed. Although the following account is not a complete record of all the positive innovations and accomplishments that have been realized, it does highlight a good many of them.

These have been realized through the hard work of our committee chairs and members, trustees and officers.

One of my first actions as President was to determine the corporate status of NAMA. It turned out to be a fortunate move, prompting me to follow up with a timely filing to put NAMA back in good standing with the State of Ohio after a lapse of many years. It may interest you to know that the previous filing was made by Elsie Knighton.

I particularly want to extend my appreciation to the chairs of the three most recent Annual Forays for their excellent management of those events: Linnea Gillman for the 2010 Colorado Foray, John and Becky Plischke for the 2011 Pennsylvania Foray, and Noah Siegel and Christian Schwarz for the 2012 California Foray. The 2010 foray hosted the celebration of NAMA's 50th anniversary. It came off as a complete and delightful success enjoyed by all participants. Michael Beug made a splendid CD with photos from many of our past forays, and Maggie Rogers compiled a remarkable booklet on each of the past forays, revealing numerous interesting and humorous incidents that occurred.

During the past three years we have created two new permanent committees: the Marketing Committee and the Medicinal Mushroom Committee. The Marketing Committee has been actively fulfilling its mission to broaden public awareness of NAMA, increase membership, and enhance member benefits. Thanks to that committee, membership dues can now be paid using PayPal. The Medicinal Mushroom Committee is certain to become increasingly important as interest in medicinal mushrooms grows in the ranks of both the scientific community and the public at large. NAMA is now well positioned to participate in and report on this rapidly developing field.

To those members who have worked diligently to make our in-house documents more accessible and usable we owe a special debt of gratitude. Thanks to its new editor, Dianna Smith, our Mycophile newsletter—after many years--is now again being delivered six times a year. It's more lively and colorful than ever, featuring a variety of fascinating articles and photographs dealing with all things mushroom. Beginning in 2011, through the efforts of Bruce Eberle, we were able to implement electronic delivery of The Mycophile. This move resulted in considerable cost savings, which we were able to divert to other activities. Although there are still some members who request postal delivery of the Mycophile in hard copy format, we hope that before long, the number of these requests will be significantly reduced. Thanks as well to Ann Bornstein for an exemplary job of updating, for the first time in many years, our Regulation and Policy Manual. She had to review the minutes from 10 years worth of Trustee meetings to find the many changes to that document. It was a tedious but a necessary undertaking for which Ann deserves our many thanks.

In the past two years we have been fortunate to have persuaded two of the most prominent North American mycologists to join NAMA's Institutional Trustee group. They are Dr. Rytas Vilgalys of Duke University and Dr. Tom Bruns of the University of California, Berkeley. We welcome them and are very appreciative of their willingness to make time in their busy schedules on NAMA's behalf.

As previously mentioned, last fall NAMA reached an agreement with Mushroom Observer to include on that firm's website photographs and specimen descriptions gathered by the Voucher Committee at our Annual Foray at Clarion, Pennsylvania. This agreement was necessary because the Chicago Field Museum has experienced delays in uploading these items onto its website. It is hoped that ultimately all of the NAMA voucher materials now at the Field Museum will be on the Mushroom Observer website. Martin Livezey is largely responsible for initiating and expediting this important project.

Finally, it should be noted that at this time our club is on very solid financial footing, thanks to our successful annual forays and our cost lowering efforts. With a new Executive Secretary, new Chairs for the Foray and the Finance Committees, and a new Treasurer joining our exceptional and talented Officers and Committee Chairs, NAMA is in qualified hands and well situated to prosper for many years to come.

In closing, I want to express my deep appreciation to each of you for your firm support and the many acts of kindness to me as well as my family. This graciousness has made my job highly enjoyable and rewarding. It has been a wonderful experience and one that I will always look back on fondly.

Bob Fulgency

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The editor wishes to apologize for inadvertently neglecting to mention in the last issue that the source for the article by Gemma Reguero's on Zombie Ants was Moselio Schaechter's wonderful microbe blog, **SMALL THINGS CONSIDERED**.

http://schaechter.asmblog.org/schaechter/

Support Mushroom the Journal and FUNGI Magazine.

2011 NAMA Photo Contest Honorable Mention

Winning Photos in Documentary Division

Polyporus radicatus, by Charles Fonaas

Cheimonophyllum candissimus, by Dianna Smith

Hygrocybe calyptraeformis, by Christian Schwarz

Clathrus ruber by Erin Page Blanchard

Distant Harvests (the Christmas edition)

By Susan Goldhor: President of the Boston Mycological Club

My guess is that by the time you read this, it will be more or less Christmas time. So let's talk about Santa Claus. Surely you've wondered about this bizarre figure. We know that Christmas is really a palimpsest over the real celebration, which is that of the winter solstice. I'm ignoring Chanukah, whose candle lighting is another winter solstice solace, but which was originally a very minor holiday that got inflated into a major one so that Jewish kids wouldn't be too jealous of their Christian neighbors. It doesn't really work, of course, because seven candles can hardly compete with a whole lit up tree and, no matter how many presents you get, you don't have the thrill of their arriving via a flying sleigh, pulled through the night sky by reindeer. Somehow, the Christians get it all. Not just the baby in the barn with the whole farm menagerie, and the three kings, and the shepherds, and the stars and the angels, but the fir tree, and the reindeer, and the thrilling ride through the night sky that magically gets to every home, and the delivery of presents via the chimney by a fat man in a red suit with white trim.

No doubt you can tell that I have given a great deal of thought to and made a serious study of Christmas. The bottom line is that Christmas, at least as celebrated in America, simply doesn't make sense. Theoretically, it celebrates the birth of Christ. This gives us the crèche, the angels, the kings, etc. Now we come to the tree, which is invariably a type of evergreen which does not grow in the holy land and which is often decorated with fake snow. This is usually explained by its being a pagan holdover, especially beloved by Germans and other northern peoples, who were into celebrating the solstice. I can appreciate this, being pretty much pagan myself. Who wouldn't appreciate the greenery, the lights, and the wonderful smell during the darkest, most indoor time of the year? The attempts to explain Santa are pathetic. Is he a third century Greek saint named Nicholas who is said to have given some gifts to poor people? It's true that the name of Santa Claus is derived from Nicholas' Dutch name (Sinterklaas), and it's also true that Sinterklaas gives gifts to good children. Let us not forget, however, that he also comes from Spain by boat (switching to horseback when he reaches land), and takes bad children back to Spain with him, which makes some sort of sense when you think of the bloody works of the Spanish Inquisition in the Lowlands a few centuries ago and the dread they inspired. But where do we get the red and white costume, the round tummy (unsuited for a serious and probably gaunt saint and martyr), the North Pole locale, the flying reindeer, and the descent down the chimney? Where do we get the total non-Christian *weirdness* of this character? Even given the way he and his reindeer have been trivialized and cartooned, which makes him look like a Disney escapee, where did he originate? And the answer that I prefer above all others, is that Santa comes from Lapland, with forays into Siberia, and the shamanic use of *Amanita muscaria*, a widely used hallucinogenic and entheogenic mushroom. It's a safe bet that *A. muscaria* is the most recognizable mushroom in the fungal pantheon. With its brilliant red cap (apologies for the fact that it's often orange or yellow in our region), decorated with white warts, it has been called one of the most photogenic mushrooms in the world (by Gary Lincoff, who has an article about it in an issue of *Mushroom the Journal*). And, it is probably the most painted mushroom in the world, appearing in children's books as different as *Alice in Wonderland* and *Babar*, to say nothing of infinite depictions of evil or enchantment or rituals -- although not rituals affiliated with religions commonly practiced here. If you were asked to illustrate a fairy tale toadstool, it's a safe bet that you'd use *A.muscaria* as your model. Found under birches and evergreens, it has a wide distribution -- not only in the circumpolar regions, but much further south. However, given Santa's North Pole habitat,

let us concentrate on the northern habitats and particularly on Lapland and Siberia, following the lead of BMC member, northern explorer and writer, Larry Millman in his fictionalized/hallucinatory essay which appeared in last winter's *Fungi* magazine.

Larry starts his *Fungi* article as follows: "In 2003, I was traveling through the Chukotka region of eastern Siberia when I happened to eat Santa Claus. Or maybe I should say that I ate the mushroom traditionally eaten by certain shamans before they became Santa Claus. Or maybe I should just say that the composite figure of Santa Claus consists of, along with historical figures like Saint Nicholas, an anonymous shaman high on an entheogenic mushroom." He goes on to point out that Santa's shape is the plump, rounded shape of the mushroom, and much more.

Why Lapland along with Siberia? Well, for one thing, this is the home of reindeer herding as opposed to caribou hunting. One should note that if reindeer have any passion outside of rutting season, it's for *Amanita muscaria*, either the whole thing or those fractions remaining after it has passed through a set of human kidneys. Deer generally love human urine, which is a source of salt, and urine from an *Amanita muscaria* consumer must be absolute manna for reindeer. Honesty (and a small desire to shock) compels me to announce that reindeer are not the only consumers of post-A*manita muscaria* human urine. *A. muscaria* contains both hallucinogenic and pathogenic compounds. The ratio of gain to pain varies; the North American species are said to contain more pain; the European, more gain. However, one nifty trick, which has been widely discovered, is that in passing through the human body, the hallucinogens come out in the urine relatively untouched while the toxic compounds are metabolized. Thus, if you're not overly fastidious, there are some real benefits to being a secondary consumer and in some northern cultures, the shaman will ingest the mushroom, and the ordinary folks, his urine. Richard Platt writes from England:

Lapp shamans used to eat the mushroom during the midwinter pagan ceremonies of Annual Renewal. The first effect of eating it was a deep coma-like slumber. When the shamans woke the drug stimulated their muscular systems, so that a small effort produced spectacular results – the intoxicated person perhaps making a gigantic leap to clear the smallest obstacle. The effect on animals was generally the same and a mushroom-maddened super-reindeer traditionally guarded each shaman. When missionaries first reached Santa's native Lapland, they found a thriving pagan myth of reindeer flight. Rather than oppose it, they shrewdly assimilated the stories into the folklore of Christmas and Saint Nicholas. The color scheme of his outfit is taken from the unmistakable red and white cap of the fungus. Lapps still scatter the mushroom in the snow to round up reindeer.

In addition, the Siberian winter dwelling, or yurt, had a smoke-hole in the roof, supported by a birch pole. At mid-winter festivals, the shaman would enter the yurt through the smoke-hole, perform his ceremonies and ascend the birch pole and leave." (Note: Siberians revere the birch tree and a sacred serpent is said to dwell at its roots. This is not a casual connection -- the mycorrhizae of *A. muscaria* also dwell at the birch trees' roots. There has been a fascinating conflation over time of the Tree of Life and the Tree of Knowledge, and at least one authority says that *A. muscaria* is the apple of that tree.) In any event, Judeo-Christian-pagan mythologizing aside, there's your chimney connection.

Continuing the birch linkage, Gary Lincoff, on the website given below, states:

> **The Koryaks use only this mushroom (*Amanita muscaria*) and no other. The shaman uses a few other mushrooms, such as the medicinal clinker fungus (*Inonotus obliquus*), but only those that occur on or about birch trees, which tribal peoples in the Russian Far East regard as sacred.**

In Kamchatka, one birch in particular, the endemic *Betula ermanii*, is believed to be the pathway between the world we know, the upper world, and the underworld: a ladder is sometimes made of birch wood to give the shaman a visual means by which to ascend or descend in the shaman's journey to effect a cure, offer protection from evil spirits, or secure a successful hunt. [When we tried to present the Koryaks with a gift of dried *Amanita muscaria* from Colorado, not only would they not accept it, but they told us they would not even use *Amanita muscaria* from the mainland, just a few miles across the Sea of Okhotsk. They only use the fly agaric associated with their local birch tree, which they regard as sacred, all others being profane.]

In the interests of full disclosure, I must mention that some experts deny that Santa sprang from the imbibing of *A.muscaria.*, stating that they are not impressed by the evidence. The problem is that I have yet to read a good alternative theory. Do we note that Santa's shape and dress bring to mind this magical mushroom? Do we allow that *A. Muscaria* is widely used to achieve an alternative state of consciousness, which endows the imbiber with almost supernatural strength and the feeling of flight? Do we admit that reindeer love it and that reindeer are absent from Anatolia, Holland and other putative Santa origins? Do we agree that Santa, with his northern home, is unlikely to have spring from an Anatolian saint? To me, one of the most powerful arguments for a strong linkage between Santa and *A.muscaria* is the introduction of flying into the legend. Although I draw the line at believing that those who eat *A.muscaria.* can fly, I do believe that they experience a surge of strength and may feel as if they are flying. Mycologist Gary Lincoff (who has a related article in the last winter's issue of *Mushroom the Journal*, entitled "Magic Mushroom Therapy: Effective Medicine or Snake Oil"?" also has a report on the internet telling of his own experiences swallowing 5 grams of dried *A.muscaria.* after visiting Siberian Koryak shamans. (You can access it at: http://www.nemf.org/files/various/muscaria/part2.html.) Here are the relevant extracts from Gary's report:

> A reindeer herd manager we interviewed told us that some of his herders ate the *Amanita muscaria* when they had to chase after runaway reindeer: the mushroom allowed them to go for long periods of time without stopping to eat or rest."
>
> At dinner, I rose to make a toast to our Russian guides. As I stood up, I pushed my chair behind me. It hit the wall and broke in several pieces."
>
> On leaving Kamchatka the next day by plane, I tried to attach my seat belt and pulled it out of the seat."
>
> Two weeks after returning home I was still feeling the effects of the relatively small amount of the fly-agaric mushroom I had consumed. The primary effect was a sense of power, an upwelling rising from my stomach.

The number of stories about flying, from cultures that use *A.muscaria* are impressive. Returning to the Koryak, the English mycologist, John Ramsbottom relates a story about the fly agaric (wapaq) which enabled Big Raven to carry a whale to its home. In the story, the deity Vahiyinin ("Existence") spat onto earth, and his spittle became the wapaq, and his saliva becomes the warts. After experiencing the power of the wapaq, Raven was so exhilarated that he told it to grow forever on earth so his children, the people, can learn from it. (Quoted from Wikipedia).

The Norse deity, Wotan, flies through the sky in a vehicle pulled by animals, and drops of blood from his steed are said to be the origin of *A.muscaria*.

Yes, Virginia, there *is* a Santa Claus, but he's a Lapp/Siberian shaman who's high on psilocybin.

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Amanita muscaria: Photo by Debbie Veiss

And a short parenthetical excursion: before leaving Christmas, may I draw your attention to Tom Volk's website (http://tomvolkfungi.net/), which not only lists his fungus of the month, but also his holiday fungi. His current list of fungi necessary for a merry Christmas includes not only *A. muscaria*, but also *Cladonia rangifera* (one of the reindeer lichens), *Saccharomyces cerevisiae* (brewer's and baker's yeast, without which we would have neither bread nor alcoholic beverages, *Daldinia concentrica*, the coal fungus (for the stockings of bad children, I assume), and *Asterophora lycoperdoides*, the star bearing powder cap mushroom.

****

And, before leaving psilocybin, new findings are emerging on that front, the most amazing of which is not what this substance can accomplish, but that it is now being accepted as a therapeutic and entheogenic agent by the medical/psychiatric establishment. Those of us old enough to have experienced the trippy 60s and 70s remember magic mushrooms (psilocybin and lots of other stuff mixed in) and cactus buttons (mescaline and lots of other stuff mixed in) being used and abused with wild abandon. Since doses were unmeasured, mixtures unknown, and the folks swallowing the stuff hardly the most stable, it probably shouldn't have surprised anyone that bad trips became common, with psychotic breaks and suicide attempts (some successful) part of the game. But, prior to this popularization of hallucinogens, starting in the 40s, a decade after Albert Hoffman synthesized LSD, "more than 1,000 scientific papers were published on psychedelics, and some 40,000 people took them in clinical settings. With compounds supplied in bulk to psychiatrists by drug manufacturer Sandoz, the field drew smart, ambitious researchers, not to mention celebrity test subjects . . . Bill Wilson, founder of Alcoholics Anonymous, took LSD with psychiatrist Sidney Cohen (later head of the National Institute of Mental Health's drug abuse division) and compared the experience to those that catalyzed his sobriety; he tried unsuccessfully to make the drug a part of the AA program." (Quoted from "A Trip to Therapy", Fall 2010, Proto Magazine, published by Mass. Gen. Hosp.) Psychotropic drugs seemed to have enormous and incompletely understood promise for a wide variety of conditions almost impossible to treat by other means, including severe migraine cluster

headaches, obsessive- compulsive disorder, and the overarching depression accompanying a terminal diagnosis. And then, all the work was dropped, and institutional support for the projects and the substances disappeared. Psychiatric research lost a promising treatment for conditions that were then, and still remain, essentially untreatable and devastating.

It's good news that a few stalwarts are using psilocybin again for medical research, with new publications appearing in the journals. The MGH article (you can download it easily from protomag.com if you want to read it in full and get further references) specifically mentions the work of Charles Grob, a UCLA psychiatrist who has used it successfully to treat terminally ill patients, unable to enjoy the time they had left, because of the severe depression that accompanied the diagnosis. (Federal law still acknowledges no medical uses for psilocybin but, like the massive supertanker that takes miles to change course, the government is rarely a rapid regulatory responder.) In fact, the more I read about psilocybin (note that the researchers are using measured doses of the pure substance in a very carefully monitored clinical setting), the more impressed I am by its power and potential for granting medical and spiritual well being. Isn't it amazing that we've accepted Santa's red and white outfit, his northern origin, his flying reindeer, his chimney habit, and his bulging mushroom shape for so long, while ignoring the real gift that he brings?

Happy Solstice to all and to all a good night!

Cognition Less Mushy with Asian Mushroom

Journal of Complementary Medicine: CM
Volume 8 Issue 2 (Mar/Apr 2009)
Hawrelak, Jason; Myers, Stephen
Improving effects of the mushroom Yamabushitake (Hericium erinaceus) on mild cognitive impairment: a double-blind placebo-controlled clinical trial.

Mori K, Inatomi S, Ouchi K, Azumi Y, Tuchida T.
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Abstract

A double-blind, parallel-group, placebo-controlled trial was performed on 50- to 80-year-old Japanese men and women diagnosed with mild cognitive impairment in order to examine the efficacy of oral administration of Yamabushitake (Hericium erinaceus), an edible mushroom, for improving cognitive impairment, using a cognitive function scale based on the Revised Hasegawa Dementia Scale (HDS-R). After 2 weeks of preliminary examination, 30 subjects were randomized into two 15-person groups, one of which was given Yamabushitake and the other given a placebo. The subjects of the Yamabushitake group took four 250 mg tablets containing 96% of Yamabushitake dry powder three times a day for 16 weeks. After termination of the intake, the subjects were observed for the next 4 weeks. At weeks 8, 12 and 16 of the trial, the Yamabushitake group showed significantly increased scores on the cognitive function scale compared with the placebo group. The Yamabushitake group's scores increased with the duration of intake, but at week 4 after the termination of the 16 weeks intake, the scores decreased significantly. Laboratory tests showed no adverse effect of Yamabushitake. The results obtained in this study suggest that Yamabushitake is effective in improving mild cognitive impairment.

Too Much of a Good Thing

By Shelly Conrad, Diplome de Cuisine, Le Cordon Bleu, Paris, Director, West Virginia Mushroom Club, Member NAMA Mycophagy Committee

What would you do if you found a tree full of oyster mushrooms today? Too many mushrooms are not as bad as too much zucchini in summer - you can usually find friends willing to share them with you. But if you think there will be some left over even after you've given away and eaten all you can, you'll want to consider saving some for another time. Since preserving is best done right after you pick the mushrooms, let's go over the options so you'll be ready to process them right away.

SELECTING MUSHROOMS FOR CONSUMPTION: The number one rule of mushroom preservation is self-preservation. Be absolutely certain of your identification before eating or preserving any wild fungus. The second rule of preservation is, unless you know which mushrooms may be eaten raw, cook all mushrooms thoroughly before or after preserving them. Third, be sure to label and date them.

When picking mushrooms in the field, try to minimize bacteria and insect infestation by selecting only young, fresh specimens and trimming off all traces of dirt or decay.

It's best to eat wild mushrooms the day you find them. If you want to keep them for a day or two, wrap them in wax paper or put them in a paper bag and store them in the middle of the refrigerator. Young boletes will last that way for a week, but shaggy manes may deliquesce overnight.

PRESERVATION METHODS: The most common ways to preserve mushrooms for long term storage are: dehydration, freezing, and marinating. Pressure canning is discouraged because the combination of low acidity and unsterilized soil in an anaerobic environment introduces the possibility of botulism.

To prepare them, discard tough or hollow stems and then quarter or slice the mushrooms into small uniform pieces that will process in the same amount of time. Very small mushrooms may be left whole.

DEHYDRATION: Two pounds of raw boletes yields about three ounces when dried. Because dehydrating concentrates flavor as it removes moisture, some mushrooms (like boletes) actually taste better when rehydrated. Dehydration also works well for Agaricus, candy caps, hedgehogs, Lactarius, Matsutakes, morels, oysters, shitakes and wood ears.

The easiest way to dehydrate mushrooms is with a machine. You can also string them up like popcorn, using cotton thread or dental floss, and then hang them in an open dry area. Another method is to place them in a single layer on a cookie sheet (turning occasionally) or on a screen or grill, and then place them in the sunshine, in your oven at the lowest temperature setting with the door ajar, or over a heat register in your home.

Some people boil slices of boletes for five minutes and then bury them in a single layer in coarse salt. If you try this, remember to soak them in several changes of fresh water before cooking.

Mushrooms are sufficiently preserved when they shrink and become brittle. Vacuum seal them

or place them in an airtight container as soon as possible to protect them from ambient humidity and then store them in the freezer for a week to kill bacteria that may have survived the dehydration process.

Dehydrated mushrooms last for years, but you should discard them if they soften or accidentally get wet.

USING DRIED MUSHROOMS: After you dehydrate them, your mushrooms will never again be as soft as they were when they were fresh. That's the price we pay for long shelf life and the ability to eat wild mushrooms off-season.

You can add dehydrated mushrooms to any dish that will cook for over an hour.

You can also place dried mushroom slices in a food processor to make a powder that can thicken and enhance the flavor of soup, stew or gravy.

To rehydrate dried mushrooms, use very hot liquid, preferably heated wine, sherry, vegetable, beef, chicken or mushroom broth. Mushrooms expand when rehydrated, so add enough liquid to cover them, and then add more as needed. Don't worry if they float, they will eventually absorb enough liquid to sink. Soak for at least 30 minutes, or until soft to the touch. Lift them out, rinse, and add to your recipe. Strain and save the rehydrating liquid to use in place of water when cooking rice or other dishes.

Once rehydrated, you can minimize chewiness by chopping the mushrooms into a fine dice before cooking. You may not want to use the chewy pieces in delicate omelets, but they are great in stir-fry recipes where the chewiness provides another layer of texture.

FREEZING: There are several ways to prepare mushrooms for freezing, but no matter which method you choose, the texture will usually toughen and the flavor will diminish. Freezing works well for *Agaricus*, boletes, Dryad's Saddle, hedgehogs, *Laetiporous*, Matsutakes, oysters, puffballs, and *Sparassis*.

Most mushrooms should be sautéed, blanched, or steamed before freezing. For one thing, cooking stops the enzymatic breakdown of mushrooms and kills bacteria. For another, mushrooms containing heat-sensitive toxins, like Morels and Honey mushrooms, will look wilted and cooked when thawed and somebody might assume they were cooked before they were frozen and accidentally serve them without cooking them enough to destroy the toxins.

Another benefit of pre-cooking is that you don't have to wait for mushrooms to thaw or wait for them to cook when you're ready to use them. They can, and should, go directly from the freezer to the pan. Placing them directly from the freezer into hot fat or liquid seals the pores and helps prevent them from becoming soggy.

SAUTE & FREEZE: Also known as duxelles, this technique works well for almost all mushrooms, especially boletes, *Laetiporous*, and honey mushrooms. Sauté chopped mushrooms and shallots in a mixture of olive oil and butter for ten minutes. Add chopped parsley, sherry, salt and pepper, and cook until the liquid evaporates. Spread the mixture on a plate, cover and refrigerate until chilled, then vacuum seal or place in zip top bags and squeeze out all of the air before freezing. To use, just empty the bag of frozen mushrooms into your skillet and cook until they warm through. You can store sautéed mushrooms in the freezer for up to six months.

BLANCHE AND FREEZE: Blanching is great if you're in a hurry, but it tends to make mushrooms feel and taste waterlogged. On the positive side, though, blanching helps remove any stubborn grit in the gills, pores, ridges or teeth. Black trumpets, hedgehogs, honeys, *Lactarius, Laetiporous* and shaggy manes do well when blanched and frozen.

Blanche mushrooms in unsalted broth or a quart of water with the juice of one lemon added (to preserve color) for fifteen minutes and then shock for ten seconds in ice water. Place them in freezer containers and then cover them with cool broth or blanching liquid and refrigerate overnight before freezing. The liquid slows the freezing process, allowing ice crystals to form and degrade the texture of your mushrooms, but the liquid also serves to prevent freezer burn, so it's worth it. Strain and freeze any remaining blanching broth for another use. You can store blanched mushrooms in the freezer for up to one year. To use, thaw in refrigerator for 6 hours and discard the surrounding liquid.

STEAM AND FREEZE: Steaming doesn't dilute flavor as much as boiling does, but it doesn't remove the grit either. *Agaricus*, chanterelles, honeys, oysters, puffballs, shaggy manes, and shitakes do well when steamed and frozen.

Steam mushrooms for ten minutes, or until they soften and begin to darken. Shock for ten seconds in ice water and then place them on a tray lined with wax paper. Refrigerate for three hours, and then freeze them overnight. The next day, put them in zip top bags, freezer containers, or vacuum-seal them.

If you do a lot of stir-frying, this is the method for you because you can place frozen mushrooms directly into the wok. Make sure nothing else is in there, because the frozen mushrooms will immediately cool the wok and slow or stop the cooking. Also, remember to stand back when you add the mushrooms, because the ice crystals on them will cause your hot oil to spatter all over the place.

MARINATING OR PICKLING: Although not all wild mushrooms can be preserved this way, marinating or pickling will give you the texture closest to fresh. The flavor will be dramatically different, but in a good way. The best part of marinating mushrooms is that when you're done, you have a finished dish to serve as a snack, side dish, or in salads. This method also works very well for *Agaricus*, blewits, bluefoots, honeys, *Lactarius, Laetiporous*, lobsters, Matsutakes, morels, oysters, puffballs, shitakes and any extra truffles you might have.

Chanterelles are the problem children of mushroom preservation. Most chefs will tell you that chanterelles become bitter and leathery unless they are preserved a certain way. The problem is, they disagree on which way. Some say they should be frozen raw, others say they should be frozen only after cooking, and many say they should never be frozen at all. Some insist that dehydration is the only way to preserve them and others say they should never be dried. The bottom line is, the delicate flavor and texture of chanterelles will suffer, no matter which method you use. The best way to preserve their texture is by marinating them, which is the method that most dramatically alters their flavor. Marinating is also great for chanterelles because any soil trapped in the ridges will fall off in the marinade and sink to the bottom.

To begin, bring a quart of water mixed with one cup of lemon juice or vinegar and one-half teaspoon of salt to a boil. Add the mushrooms and cook for five minutes. Scoop them out and place in a second pot containing boiling salted water. After five minutes, scoop them out and place them in sterilized glass jars. Add your marinade (usually vinegar, oil, herbs and spices)

and then refrigerate for three days before eating them. They will keep for a month under refrigeration. Again, the possibility of botulism and spoilage exists, so it is imperative that you use recipes from trusted sources like this:
http://nchfp.uga.edu/how/can_06/marinated_mushrooms.html

MUSHROOM BROTH: It's a good idea to keep a labeled container in your freezer for parsley stems, leek tops, mushroom stems, spongy bolete pores, woody parts of edible polypores, and other trimmings. When the container is full, dump the contents into a pot along with some coarsely chopped onion, carrots, celery and parsley. Add enough water to cover it all and cook for two hours, or until the vegetables soften. Strain into a colander lined with a coffee filter or paper towels, being careful to stop straining before you get down to the dirt particles at the bottom of the pot. Refrigerate until chilled and then freeze for up to one year. Use to make soup, stew, sauces, gravies, rice, or to rehydrate mushrooms.

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How do you pronounce those +!&@*# names?!

By John Masengarb

(From the January 2012 issue of The Toadstool, newsletter of the Minnesota Mycological Society)

As mushroom hunters we might not feel the need to learn (much less pronounce) the names of our quarry. But as mycologists, we should at least make the attempt. To do so, we have to learn a new language, one that's rooted in some ancient tongues but has acquired elements of many other languages, both old and new. Learning and using this new language helps us communicate with more precision to fellow mycologists here and around the world regardless of their native language, and precisely communicating about whether or not we have an edible mushroom in hand is certainly worth a little bit of effort.

The scientific names may sound Greek to you, but they do to me, too. That's because they are, in part. But mostly they are Latin. Not Classical Latin nor Church Latin, but a Latin that developed in Europe centuries ago among the scientific community. And ancient Greek was incorporated into this special language and has affected the pronunciation of certain names. In more recent times, other languages have been brought in, most often by honoring some individual in the name of a newly discovered fungus. And those names have come from many countries and thus, many languages.

So, where do you begin? Years ago, I checked out a book on botanical Latin, since I was a young horticulturist (plant nerd) who wanted to know how to pronounce those botanical names I was running into. Well, to cut to the chase, the only thing I got out of the book was that when it comes to pronouncing a plant's name, you say it like your colleagues say it! So paying attention to the authorities in the field can be your starting point. But for some of the "rules" (and there are almost always exceptions), read on.

VOWELS

The vowels normally are all pronounced separately, each one to its own syllable. So *Collybia* has four syllables. That a at the end is special because it is the only vowel at the end of a name that has a short sound (like uh). Think "idea" or "Minnesota", and *Armillaria mellea,* and *Russula*. But a vowel in a final syllable has a short sound, except (I told you there were exceptions) es (sounds like ease) such as in *Marasmius oreades*.

Some pairs of vowels are pronounced as one and these (for you language majors) are called diphthongs. So ae sounds like long e, oe usually sounds like long e, but sometimes like short e (sounds like eh), oi sounds, like you might expect, the way the two sound in "oil", eu sounds like long u (eunuch), while ei sounds like long i, ai sounds like long a, and au as in the familiar "August". (Things used to be a little easier, when, in the old days, at least the ae and oe pairs were conjoined in print.)
Some mycological examples:
ae: *Laetiporus*, *Crucibulum laeve*
oe: *Gloeoporus*, *Psathyrella foenisecii*
oi: *Asterophora lycoperdoides*
eu: *Aleuria* (but not *Pluteus* - the e and u are in separate syllables)
ei: *Mycena niveipes*
ai: *Entoloma murraii*
au: *Agaricus augustus*, *Galerina autumnalis*

CONSONANTS

The consonants mostly sound like you would expect them to sound, if you know English, because English has incorporated Latin and Greek. The letters c and g can be hard or soft, depending on what vowels follow them. If followed by ae, e, oe, i, or y, they take the soft sounds, sounding like s and j respectively (as in "Society" and "giraffe" and "fungi"). If followed by a, o, oi, or u, they sound like k and, well, g (as in "come" and "go" and "fungus").
Some mycolgical examples:
c like s: *Cystoderma*, *Laetiporus cincinnatus*
c like k: *Cantharellus*, *Collybia*
g like j: *Phlogiotis*, *Gerronema, Gyromitra*
g like g: *Galerina*, *Gomphidius*

At the beginning x sounds like z ("xylophone"), in the middle it's its usual self ("boxes"), as it is at the end. So with mushrooms, we have *Xylobolus* and *Xylaria, Paxillus* and *Hypoxylon, and lastly, Agrocybe praecox* and *Craterellus fallax*.

The combination of c and h (ch) generally has two sounds in English, a soft and a hard as in "chair" and "chiropractic". We are used to knowing that ch sometimes acts as a k and it's because some of our words have come to us from the Greek, such as "chiropractic", "psychology" and "chorus". It can also have a sound like sh if the word came down to us through French ["chevron", "chemise"] but that's a different story.) Well, in mycological Latin, ch is pronounced like a k, but don't all of us say the name of our logo and State Mushroom (*Morchella*) with the "chair" sound? However, we do say *Tricholoma* with the k sound.

Another combination that is pronounced differently depending on what follows is sc. Think of "scent" and "science" and "scale" and "scum". Interestingly, with the first pronunciation, when you think about it, either letter becomes superfluous. Mycological examples include any species names that end in *-escens*, such as *Gyroporus cyanescens* and *Amanita brunnescens*. With the second pronunciation, we have the sk sound and it appears in *Scutellinia scutellata* and *Pluteus cervinus* variety *scaber*.

Then there are the other combinations which, when at the front of name lose the sound of the first letter but don't when in the middle of a name! They are ps (as in "psychic"), and ts (as in "tsar"), and a few others.
Some fungal examples include:
ps: *Psilocybe*, *Psathyrella* and *Hypsizygus*
ts: *Ganoderma tsugae*

Another combination (ph) always maintains it's f sound, as we are used to English in words such as phosphorus and photograph. Among the fungi there are *Hygrophorus* and *Camarophyllus.*

DOUBLE LETTERS

Double letters in mushroom names make for some interesting cases. Normally, the letters get split into separate syllables. Examples include the double lls in *Tremella* and *Collybia*, the double s in *Sparassis* and double c in *Leccinum*. An exception occurs when the double letters are part of someone's name, such as *Amanita wellsii and Xeromphalina kauffmanii* (I'll get back to those two is at the end soon).

When two cs occur together, the first one ends a syllable and sounds like k, the second begins the next syllable and sounds like s or k depending on what follows it, as in the previously mentioned *Leccinum*, but also note the double k sounds in *Laccaria*, and *Saccharomyces*.
Rarely two os can be found together in a fungal name, such as *Chroogomphus*. Each is in its own syllable and the first o is at the end of its syllable so is long. So is the next one. It may sound funny, but that's the way it is. One exception I came across is in the name: *Calvatia booniana*, because it was named for Judson Boone.

More often we see those two is staring at us from the end of a species name. They follow someone's name who has been honored by some mycologist, such as in the previously cited *wellsii* and *kauffmanii*,. According to the rules already cited, each i is in its own syllable, the first one is short, since it's in the next to last syllable and the second one is long because it's at the end of it's syllable. So the proper pronunciation is wells-ee-eye, and kauff-man-ee-eye.

SYLLABIFICATION, ACCENTURE, STRESSING

Whatever it's called, the other part of mycological pronunciation is what we might call the rhythm, whereas up to now we concentrated on the notes.

To get the accent right (and here I'm not talking regional or national accents), we go to the end of the word first. The accent or stress is never on the last syllable. In two-syllable names the accent is on the first one, which is actually the next to the last. Common fungal examples are *Verpa* (VER-pa) and *Gomphus* (GOM-phus).

For longer words, things get more complicated. The last syllable is the ultimate (meaning last) one, the one before it is called the penultimate syllable (meaning next to last), and the one before that (third one from the end) is referred to as the antepenultimate (meaning before the next to last) syllable. In general, it's that one that gets stressed the most. We have examples right in our own name: My-co-LOG-i-cal So-CI-e-ty. Examples from fungi we know include: *Armillaria mellea* and *Cortinarius violaceus*.

But there are many exceptions (or should we say, other rules?). For instance, if the penultimate syllable (or penult, for short) contains a diphthong, then the accent falls on it, examples: *Melanoleuca* (Me-la-no-LEU-ca) and *Phlogiotis helveloides* (P. hel-ve-LOI-des). Also, when the next-to-last syllable ends with x or z, the accent falls on it, as in *Clitocybe subconexa* (C. sub-co-NEX-a) or mycorrhizae (my-cor-RHIZ-ae). And if the penult vowel is long, it takes the stress. Common endings where that is the case are –ina (and varients -inum, -inus), -ana (-anum, -anus), -odes, -oma, -osa (-osum, -osus), and -ites. Just a few examples, in order: *Flammulina (Flam-mu-LI-na)*, *Leccinum vulpinus (Lec-CI-num vul-PI-nus)*, *Amanita banningiana (A-ma-NI-ta ban-nin-gi-AN-a)*, *Hericium americanum* (He-RI-ci-um a-mer-i-CA-num), *Suillus americanus* (SUIL-lus a-me-ri-CA-nus), *Gerronema strombodes* (Ger-ro-Ne-ma strom-BO-des), *Hebeloma* (He-be-LO-ma), *Pholiota squarrosa* (Pho-li-O-ta squar-RO-sa), *Hygrophorus speciosus* (Hy-GRO-phor-us spe-ci-OS-us), and *Lenzites* (Len-ZI-tes).

As you will see (and hear?), there are further exceptions in other names you know or will run across. Or are there just other rules? Well, there are, but one article (or two) can't teach a new language and I'll admit that I don't know all the rules. And probably none of us apply them consistently, anyway. But I hope this helps you in some small way toward better mycological communication.

Two Volunteers Needed for NAMA Education Committee Positions

The NAMA Program Loan Librarian:

Carlene Skeffington has been Program Loan Librarian for many years. She has moved temporarily from New Hampshire to New Mexico and has taken the loan programs with her. Currently, NAMA offers more than fifty programs on mycology, most of them now on computer CDs. They can be borrowed free by NAMA members and the NAMA affiliated Clubs, and with a small fee by non-members. Members or Clubs can make one copy of any of the CDs for personal use only, for a small fee, as long as it is for a non-commercial use. The programs are very useful for Clubs to show at meetings or study groups or to add to their libraries. The job of the Program Loan Librarian is to send out the requested material and to receive and check it when it is returned. To view the program listings and directions for borrowing the programs, please sign on to : www.namyco.org., click on Education and view the listings and directions for borrowing the programs.. Loan Programs volume has decreased, since the CDs can be copied, but there are always new members, non members and clubs who would like to borrow them.

The Western Mushroom Teaching Kit Librarian:

Maggie Rogers has spent many years developing the contents of the Western Mushroom Teaching Kit and has requested that she be replaced by a NAMA member, preferably with some teaching experience and living in the Western part of the United States (Mailing costs are high.) View the contents of the Kit on the Education page of the NAMA website. The contents can be customized to the needs of the renter. We do have an Eastern Mushroom Teaching Kit, maintained and loaned out by Carol Dreiling. The Kit can be used in K-12 classes, introductory college classes, science museums and adult education classes. Maggie recently received much praise from a school in Pasadena, CA, that borrowed the Kit. The job of the Western Mushroom Teaching Kit Librarian is to send out the requested materials and to check them when they are returned.

If you are interested in either of these two jobs, please contact Sandy Sheine at: ssheine@aol.com. The outgoing Librarians and I will be happy to work with you if you take over these jobs.

Sandy Sheine: Education Committee Chairperson

"To the respectable mushroom hunter, Agaricus bisporus is only a poor imitation of a real mushroom, as natural to mycophagists as refined sugar is to health food purists."

SARA ANN FRIEDMAN

The well known, cultivated button mushroom *(A. bisporus*), and its variations of Crimini and Portobello are available in most supermarkets. Wild *Agaricus* species tend to be softer, more pliable and less chalky than domesticated counterparts, nuttier flavor when cooked, and free.

Button mushrooms boost both innate and active immune systems. The former system naturally protects against pathogens such as viruses, bacteria and fungi, while the active system responds when the innate system is by-passed or compromised.

Button mushrooms enhance maturation of bone marrow dendritic cells and enhance antigen-presenting function. This suggests innate and T cell mediated immunity against both microbial and cancer cells.

Both button and Portobello mushrooms inhibit the enzyme aromatase, associated with breast cancer, and 5-alpha reductase activity associated with prostate cancer (Grube et al, 2001; Chen et al, 2006)

The button contains polysaccharides that inhibit *Helicobacter pylori* bacterium associated with gastric and duodenal ulcers (Kim, D.H et al, 1996.

A study of 2,018 pre- and post-menopausal women, half diagnosed with breast cancer and half "healthy" looked at consumption of ten grams of fresh button mushrooms or four grams of dried. Results showed a 64% reduction of risk in mushroom group. When women also drank green tea the decreased risk went up to 90% (Zhang, Min et al, 2008).

Like all mushrooms, they should be cooked. Both button and Portobello mushrooms contain the antioxidant ergothioneine in amounts twelve times that of wheat germ. Vitamin D2 and B12 content are other reasons to hunt for these in the wild or in your local store.

Vitamin D2, also known as ergocalciferol, increases with exposure to UV light. Work by Penn State Research foundation found exposing mushrooms to pulsed UV light increased vitamin D2 content by 800% after one second of exposure.

Vitamin B12, usually found in beef, eggs, liver and salmon, is found in significant amounts in the outer skin of button mushrooms.

Nine mushrooms were tested for protection against oxidative DNA damage. Cold-water extracts of button mushroom afforded the greatest protection, followed by hot water extraction from Reishi (*Ganoderma lucidum*) (Shi, YL et al 2002).

Buy organic, as the use of malathione and other fungicides are dangerous to

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Robert Dale Rogers is an assistant clinical professor in family medicine at the University of Alberta. He instructs in plant and fungi medicine at Grant MacEwan University and The Northern Star College of Mystical Studies.

He is chair of the medicinal mushroom committee of NAMA, and is on the editorial board of The International Journal of Medicinal Mushrooms. His most recent publication is The Fungal Pharmacy: The Complete Guide to Medicinal Mushrooms and Lichens of North America.

Author Robert Dale Rogers

The Tyranny of Phylogeny: An Exhortation

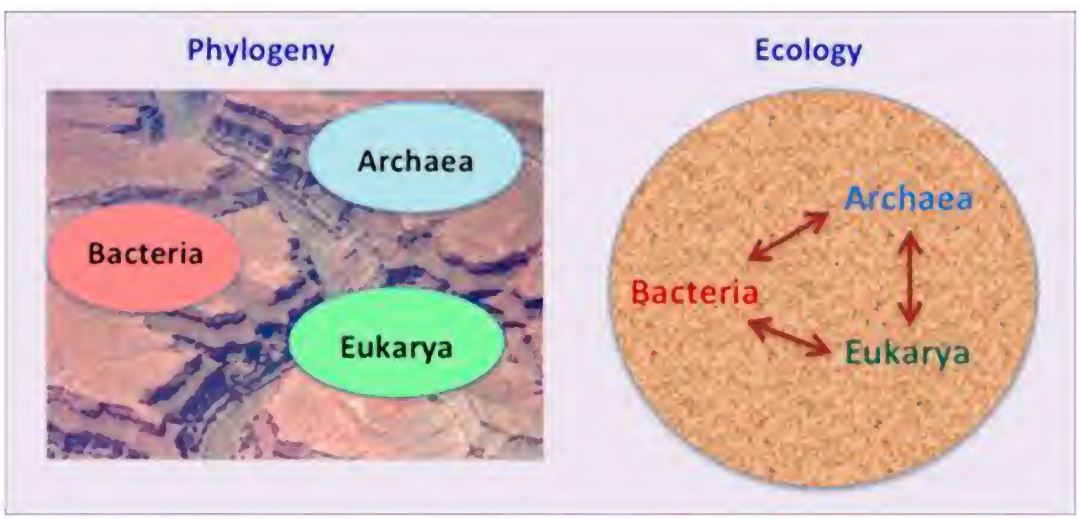
(Published in the microbe blog, SMALL THINGS CONSIDERED
http://schaechter.asmblog.org/ on October 25, 2013.

Editor: Although fungi are not specifically mentioned in the article, the message also seems to be valid for this kingdom.)

by Elio Schaechter

There are days when I wish that the Woesian Three Domain scheme were wrong. Not that I would be happier if there were four or five or whatever number of domains. What would please me would be an escape from what I feel is an unnecessarily oppressive way of thinking, the seating of phylogeny (and its acolyte, genomics) alone at the head of the table. Why do I say this? Because as essential as phylogeny is to our understanding of the evolution of living organisms, equally vital is ecology to comprehend present day life. While it's good to know where you come from, it's equally important to know where you are and what you're doing there. The Spanish philosopher Ortega y Gasset said it well: *Yo soy yo y mi circunstancia* (*I am I and my circumstance*).

A sole focus on phylogeny forces the past ahead of the present. Compare the two figures; they represent two different worldviews. One highlights the deep clefts between the domains, the other is integrative and does away with such barriers. Maybe it is not phylogeny's job to emphasize ecology, but neither should we be fixated on evolution alone. Obviously no one is, so I apologize for erecting a straw man. Yet let me voice a wish: I would like to see a wider ranging acknowledgement of each organism's give-and-take with its environment. Famed evolutionary biologist and geneticist Dobzhansky once said: *Nothing in Biology makes sense except in the light of evolution*. Do I dare modify this well-known dictum to read: *Nothing in Biology makes sense except in the light of evolution* ***and ecology***.



A Field Guide to Edible Mushrooms of California

Daniel Winkler, 2012

Harbour Publishing

http://www.harbourpublishing.com

ISBN 978-1-55017-589-9

$7.95

(Available from the author at www.MushRoaming.com)

Just over a year ago, Harbour Publishing released a short brochure-type guide to the edible mushrooms of the Pacific Northwest by mushroom adventurer Daniel Winkler (reviewed in the January-February 2012 issue of *The Mycophile*. Now Daniel is back with a guide for California. Like its predecessor, this publication is best described as a laminated, accordion-folded, small poster. When folded, it is about 9 inches high and half as wide. Unfolded, it extends to about 36 inches, still 9 inches high. Given the similarity of the two guides, this review will read much like the first.

Two panels provide a brief introduction to mushrooms, their identification, edibility, habitat, and seasonal occurrence, plus a key to the symbols or icons used in the species descriptions. Wisely, users are cautioned not to rely on this publication alone for identifying mushrooms, especially ones intended for the table. Descriptions are presented four or five per panel.

Fifty-three species are presented—39 good or choice edibles, 4 edible with caution, and 10 poisonous, including 3 deadly species. These are indicated by a system of icons—a green circle with green fork and knife for good edible, the same with an added gold star for choice edible, a golden yellow “warning” triangle with fork and knife for edible with caution, and a red circle with international “no” slash for poisonous. Each icon is then bordered in green, yellow, or gray to indicate the species’s ease of identification—easy, moderate, or only with great care. A clever idea, but the small size of the icons makes it a bit difficult to see the borders clearly. Thirty-three of the species are also in the Pacific Northwest guide (nearly all with the same photos). Of the 20 species that are only in this guide, at least 10 also occur in the PNW.

The descriptions are very brief and each is accompanied by a color photo (or sometimes two or three). The photos are rather small (no more than about 6 × 4 cm) and most include very little of the mushrooms' surroundings, making it hard to get a good sense of scale. Most of the images are of good quality, although some fail to show essential ID features, such as the volvas of some of the amanitas, and the ocher-yellow gills of *Russula xerampelina*. A few, such as those for *Lactarius deliciosus* group and *Boletus edulis* var. *grandedulis*, are too dark and fail to provide a good sense of the fungus. The photo for *Russula cyanoxantha* actually shows *R. occidentalis*, the image for *Lactarius rubidus* (candy cap) seems rather dark for the typical California oak associate (although it fits the similar-smelling taxon that is found with conifers in the Pacific Northwest), and the image for *Pleurotus ostreatus* either is an atypical representation or is of something else.

If you're interested in an overview of the principal edible fungi of the Golden State, this provides the key information in a convenient, affordable format.

Steve Trudell

WPMC Receives PCR Thermocycler

Thanks to a generous donation, the Western Pennsylvania Mushroom Club is now the proud owner of a PCR Thermocycler. What is a PCR thermocycler?

PCR, or polymerase chain reaction, is a process by which a small sample of DNA can be "amplified", or copied many, many times. The multiple copies (by providing redundant information) make DNA sequencing or barcoding more reliable. The PCR process requires many cycles of timed heating and cooling to a certain temperature, and that's what a thermocycler does, automatically and precisely.

What does this mean for WPMC? We'll be able to do some of the initial "lab" work, required for genetic identification, before sending it out for sequencing. (If someone else donates additional equipment, or knows of a lab getting rid of equipment, that will help us do even more!) And we'll be contributing scientific knowledge to the mushroom world, as well as our club.

Over the next few months, interested WPMC members will be learning more about the thermocycler and how to use it. After we get the hang of it, a presentation will be given to club members, we will have future classes on it, and have it available when we encounter particularly mysterious or hard-to-identify specimens.

John Plischke III

WHAT IS A NAMA REGIONAL FORAY, AND WHY ARE THEY SO MUCH FUN?

By David Rust

The annual Wildacres Regional Foray is unique for several reasons, not the least of which is the awesome natural beauty of the area, including Mt. Mitchell, the highest peak east of the Mississippi River. If you stop along the Blue Ridge Parkway in September, you find evidence of fall's arrival, including a huge diversity of mushrooms.

NAMA's Allein Stanley, who initiated this foray some 15 years ago, says that limiting the number of participants means having an opportunity to get people into smaller woods than a larger group could manage, and that participants can have a more personal connection. **"To me, the Wildacres experience is unique," says Stanley. Not only can people go to the same locations to collect fungi year after year, there is lots of social time. A traditional wine and cheese feast on the lower deck each evening is very popular.**

© 2012 Photos by David Rust

"Originally, we specified mycologists with some southern experience. Over the years, mycologists have included: Orson Miller, Greg Mueller, Dennis Desjardin, *Coleman McCleneghan*, Juan Mata, Brandon Matheny and Rytas Vilgalys. Additionally, we have had the support of Walt Sundberg and a whole bunch of gifted amateurs like Jay Justice, *Owen McConnell*, David Rose, Donna Mitchell and Bill Roody, Susan Mitchell, Glenn Freeman, Glenn Boyd, Bart Buyck, Patrick Leacock and many others," adds Stanley.

NAMA regional forays are designed to provide an in-depth learning experience. Limited to 40 participants, folks come from up and down the East Coast to learn what they can about local fungi. Professional and non-academic mycologists scoured their books, field guides and literature to provide mushroom identifications.

© 2012 Photo by Christine Braaten, Debbie Viess, and David Rust

Christine Braaten and Debbie Viess collected a gelatin-free Calostoma species, Calostoma ravenelii, with a scaly exterior, solid white interior and a red stoma (hot lips!) just below the skin. Just below the lodge, I found a mysterious white gilled mushroom which immediately fell on the radar of UT graduate student Marisol Sanchez-Garcia. Debbie Viess brought in a collection of Multiclavula mucida, one of a relatively small number of lichen-forming basidiomycetes, which can usually be found growing on a bed of green algae. Christine IDs a stunning collection of Omphalotus illudens which glowed yellow orange on the table.

At the most recent foray in September, participants were able to interact with a large cohort of professional and amateur mycologists including Jay Justice, Brandon Matheny, Rytas Vilgalys, Noah Siegel, Debbie Viess, David Lewis and a number of notable students from Duke University and the University of Tennessee. Conditions were not ideal this year, but our group still gathered approximately 197 species. Despite collecting for 15 years at the same location, approximately 20% of species found each year are new to the master list.

Ursula Pohl, Alyssa Allen and Pat Olson put together a demonstration of mushroom dyes. Ursula Pohl, Jackie Scheib and others also cooked up a wonderful sampling of edible mushrooms that we had collected. For more information: http://www.namyco.org/events/wildacres_foray.html

David Rust

!!! Urgently Wanted!!!

Candidates for NAMA President and Vice President

This year the First Vice President and President complete their three-year terms. The current President is retiring from his position. **Any interested candidates should send consent- to-serve and a short biographical description of their qualifications to Adele Mehta, Second Vice President, 4917 W. Old Shakopee Rd., Bloomington, MN 55437 or A.Mehta@Seniorcommunity.org.** If you have any questions she can be reached by telephone at (952) 884-7362.

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THE MYCOPHILE

Hygrocybe marginata